

IN THE CLAIMS

Claims 1-34 remain in the application, unamended by this paper. They are provided herein for your convenience and consideration.

1 1. A method of conducting data compression, comprising:
2 receiving multiple input data blocks for storage in a data storage subsystem;
3 applying a predetermined compression process to the data blocks;
4 evaluating application of the predetermined compression process according to a
5 predetermined compression criteria; and
6 if the compression fails to satisfy the predetermined compression criteria, ceasing
7 compression for subsequent data blocks.

1 2. The method of claim 1, the predetermined compression process being performed
2 individually on each of the received data blocks, the evaluating of application of the
3 predetermined compression process according to a predetermined compression criteria
4 comprising:

5 selecting a group of the received data blocks in accordance with a predetermined
6 selection criteria;

7 for each data block in the selected group, determining a compression ratio between

8 (1) the data block's size after application of the predetermined compression
9 process, and (2) the data block's size prior to application of the predetermined
10 compression process, and

11 for the selected group of received data blocks, determining how many data blocks
12 have a compression ratio greater than a first threshold; and

13 if the number of data blocks having a compression ratio greater than the first
14 threshold exceeds a second threshold, the compression satisfying the
15 predetermined compression criteria.

1 3. The method of claim 2, the selection of a group of the received data blocks in
2 accordance with a predetermined selection criteria comprising selection of data blocks in a
3 fixed window.

1 4. The method of claim 2, the selection of a group of the received data blocks in
2 accordance with a predetermined selection criteria comprising selection of data blocks in a
3 running window.

1 5. The method of claim 1, the evaluating of application of the predetermined
2 compression process according to a predetermined compression criteria comprising:
3 selecting a group of received data blocks in accordance with a predetermined
4 selection criteria;
5 for all received data blocks in the selected group, determining an aggregate
6 compression ratio between (1) the aggregate size of the data blocks after
7 application of the predetermined compression process, and (2) the aggregate
8 size of the data blocks prior to application of the predetermined compression
9 process, and
10 determining whether the aggregate compression ratio exceeds a first threshold; and
11 if the aggregate compression ratio exceeds the first threshold, the compression
12 satisfying the predetermined compression criteria.

1 6. The method of claim 5, the selection of a group of the received data blocks in
2 accordance with a predetermined selection criteria comprising selection of data blocks in a
3 fixed window.

1 7. The method of claim 5, the selection of a group of the received data blocks in
2 accordance with a predetermined selection criteria comprising selection of data blocks in a
3 running window.

1 8. The method of claim 1, wherein:
2 the predetermined compression process is performed individually on each of the
3 received data blocks; and
4 the cessation of compression comprises ceasing compression until satisfaction of a
5 predetermined skip criteria, and then resuming application of the
6 predetermined compression process.

1 9. The method of claim 8, predetermined skip criteria comprising expiration of
2 predetermined time.

1 10. The method of claim 9, the cessation of application of the predetermined compression
2 process further comprising:
3 storing uncompressed data items received during cessation of compression.

1 11. The method of claim 9, predetermined skip criteria comprising storage of a
2 predetermined number of uncompressed data items.

1 12. A programmed product comprising signal-bearing media tangibly embodying a
2 program of machine-readable instructions executable by a digital processing apparatus to
3 perform a method for conducting data compression, said method comprising:

4 receiving multiple records for storage in a data storage subsystem;
5 compressing at least one of the data records;
6 evaluating the compression performance according to a predetermined compression
7 criteria; and
8 if the compression fails to satisfy the predetermined compression criteria,
9 terminating compression of subsequent data records.

1 13. The product of claim 12, the compressing being performed individually on each of
2 the received data records, the evaluating of the compression performance according to a
3 predetermined compression criteria comprising:

4 selecting a group of the received data records in accordance with a predetermined
5 selection criteria;
6 for each data record in the selected group, determining a compression ratio between
7 (1) the data record's size after compressing, and (2) the data record's size prior
8 to compressing, and
9 for the selected group of received data records, determining how many data records
10 have a compression ratio greater than a first threshold; and
11 if the number of data records having a compression ratio greater than the first
12 threshold exceeds a second threshold, the compression performance
13 satisfying the predetermined compression criteria.

1 14. The product of claim 13, the selection of a group of the received data records in
2 accordance with a predetermined selection criteria comprising selection of data records in
3 a fixed window.

1 15. The product of claim 13, the selection of a group of the received data records in
2 accordance with a predetermined selection criteria comprises selection of data records in a
3 running window.

1 16. The product of claim 12, the evaluating of compression performance according to a
2 predetermined compression criteria comprising:

3 selecting a group of received data records in accordance with a predetermined
4 selection criteria;

5 for all received data records in the selected group, determining an aggregate
6 compression ratio between (1) the aggregate size of the data records after
7 compressing, and (2) the aggregate size of the data records prior to
8 compressing, and

9 determining whether the aggregate compression ratio exceeds a first threshold; and
10 if the aggregate compression ratio exceeds the first threshold, the compression
11 performance satisfying the predetermined compression criteria.

1 17. The product of claim 16, the selection of a group of the received data records in
2 accordance with a predetermined selection criteria comprising selection of data records in
3 a fixed window.

1 18. The product of claim 16, the selection of a group of the received data records in
2 accordance with a predetermined selection criteria comprising selection of data records in
3 a running window.

1 19. The product of claim 12, wherein:
2 the compression is performed individually on each of the received data records; and
3 the termination of compression for subsequent data records comprises terminating
4 compression until satisfaction of a predetermined skip criteria, and then
5 resuming compression for subsequent data records.

1 20. The product of claim 19, predetermined skip criteria comprising expiration of a
2 predetermined time.

1 21. The product of claim 20, the termination of compression for subsequent data records
2 further comprising:
3 storing uncompressed data records received during termination of compression.

1 22. The product of claim 20, the resumption of compression after satisfaction of a
2 predetermined skip criteria comprising:
3 resuming compression of subsequent data records after storage of a predetermined
4 number of uncompressed data records.

1 23. A data storage subsystem, comprising:
2 a storage unit to store digital data blocks;
3 a storage controller, coupled to the storage unit, and programmed to conduct a data
4 compression process, the process comprising:
5 receiving multiple input data blocks for storage in a data storage subsystem;
6 applying a predetermined compression process to the data blocks;
7 evaluating application of the predetermined compression process according
8 to user adjustable and programmable compression criteria; and
9 if the compression fails to satisfy the predetermined compression criteria,
10 ceasing compression of future data blocks.

1 24. The subsystem of claim 23, the predetermined compression process being performed
2 individually on each of the received data blocks, the evaluating of application of the
3 predetermined compression process according to a predetermined compression criteria
4 comprising:
5 selecting a group of the received data blocks in accordance with a predetermined
6 selection criteria;
7 for each data blocks in the select group, determining a compression ratio between (1)
8 the data block's size after application of the predetermined compression
9 process, and (2) the data block's size prior to application of the predetermined
10 compression process, and
11 for the selected group of received data blocks, determining how many data blocks
12 have a compression ratio greater than a first threshold; and

13 if the number of data blocks having a compression ratio greater than the first
14 threshold exceeds a second threshold, the compression satisfying the user
15 adjustable and programmable compression criteria.

1 25. The subsystem of claim 24, the selection of a group of the received data blocks in
2 accordance with a predetermined selection criteria comprising selection of data blocks in a
3 fixed window.

1 26. The subsystem of claim 24, the selection of a group of the received data blocks in
2 accordance with a predetermined selection criteria comprising selection of data blocks in a
3 running window.

1 27. The subsystem of claim 23, the evaluating of application of the predetermined
2 compression process according to a predetermined compression criteria comprising:
3 selecting a group of received data blocks in accordance with a predetermined
4 selection criteria;
5 for all received data blocks in the selected group, determining an aggregate
6 compression ratio between (1) the aggregate size of the data blocks after
7 application of the predetermined compression process, and (2) the aggregate
8 size of the data blocks prior to application of the predetermined compression
9 process, and
10 determining whether the aggregate compression ratio exceeds a first threshold; and
11 if the aggregate compression ratio exceeds the first threshold, the compression
12 satisfying the user adjustable and programmable compression criteria.

1 28. The subsystem of claim 27, the selection of a group of the received data blocks in
2 accordance with a predetermined selection criteria comprising selection of data blocks in a
3 fixed window.

1 29. The subsystem of claim 27, the selection of a group of the received data blocks in
2 accordance with a predetermined selection criteria comprising selection of data blocks in a
3 running window.

1 30. The subsystem of claim 23, wherein:
2 the predetermined compression process is performed individually on each of the
3 received data blocks; and
4 the cessation of compression comprises ceasing compression until satisfaction of a
5 predetermined skip criteria, and then resuming application of the
6 predetermined compression process.

1 31. The subsystem of claim 30, predetermined skip criteria comprising expiration of a
2 predetermined time.

1 32. The subsystem of claim 31, the termination of application of the predetermined
2 compression process further comprising:
3 storing uncompressed data items received during cessation of compression.

1 33. The subsystem of claim 31, the resumption of application of the predetermined
2 compression process after satisfaction of a predetermined skip criteria comprising:
3 resuming application of the predetermined compression process after storage of a
4 predetermined number of uncompressed data items.

1 34. A data storage subsystem, comprising:
2 storage means to store digital data blocks;
3 storage controller means, coupled to the storage unit, for conducting data
4 compression process by:
5 receiving multiple input data blocks for storage in a data storage subsystem;
6 applying a predetermined compression process to the data blocks;
7 evaluating application of the predetermined compression process according
8 to a predetermined compression criteria;
9 if the compression fails to satisfy the predetermined compression criteria,
10 ceasing compression of subsequent data blocks;
11 wherein the predetermined compression process is performed individually to
12 each of the received data blocks, and the evaluating of application of
13 the predetermined compression process according to a predetermined
14 compression criteria comprises:
15 selecting a group of the received data blocks in accordance with a
16 predetermined selection criteria;
17 for each data block in the selected group, determining a compression ratio
18 between (1) the data block's size after application of the
19 predetermined compression process, and (2) the data block's size
20 prior to application of the predetermined compression process;
21 for the selected group of received data blocks, determining how many data
22 blocks have a compression ratio greater than a first threshold; and
23 if the number of data blocks having a compression ratio greater than the first
24 threshold exceeds a second threshold, the compression satisfying the
 predetermined compression criteria.